

# Innovations in Quality Public Health Laboratory Practice

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Milwaukee's L-SIP

From Assessment to Strategic Plan

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# **City of Milwaukee Health Department Laboratory (MHDL) Laboratory System Improvement Program (L-SIP)**

## **APHL Innovations in Quality Public Health Laboratory Practice Final Report**

The purpose of the MHDL Innovations grant was to answer the question “*What does an ideal PHL system look like?*” In response to this question, MHDL proposed to implement the second step of the L-SIP by using the results of the assessment to develop a strategic plan aimed at process improvement and strengthening of the local public health laboratory system in Milwaukee. In doing so, the goal of MHDL was to produce a plan to guide the activities needed to become a model *local* public health laboratory system.

Specific project outputs were to:

- Examine and present assessment results utilizing various tools and media;
- Form a steering committee to guide strategic planning for the LPHL system;
- Develop a strategic plan and implementation timeline; and
- Prepare a manuscript detailing the entire process for peer review and publication.

After months of continued L-SIP efforts, MHDL is proud to report that many of the objectives it originally set out to accomplish have been successfully fulfilled, and future plans are in place to execute the goals that still remain. The aim of this report is to present a summary of activities that have been completed thus far in MHDL’s L-SIP process and how those activities have served to meet our objectives, as well as highlight the next steps remaining in the process.

### ***The Assessment***

MHDL’s L-SIP assessment was held on November 18, 2010. The assessment was conducted by 75 system stakeholders representing over 40 agencies– including clinical laboratory scientists, local and state epidemiologists, first responders, environmental professionals, academicians, researchers, state and local public health professionals and other stakeholders – with a goal of evaluating the performance of the LPHL system.

As the first local public health laboratory in the nation to implement the L-SIP assessment, the MHDL, working with consultant Amy Murphy, developed a *Definition of a Local Public Health*

*Laboratory System*, modified the *Laboratory System Improvement Program Performance Measurement Tool* so that it was relevant for local application, and customized the visual depiction of a State Public Health Laboratory System to represent a local system. Utilizing those tools and through facilitator-guided discussion, assessment participants rated the performance of the LPHL system in the 10 Essential Services of Public Health Laboratory Systems, giving activity ratings of optimal, significant, moderate or minimal for indicators outlined under each service. Through work group discussion, participants also identified strengths and weaknesses for each service and brainstormed next steps for improvement. Based on a participation evaluation completed by 42 attendees, 90 percent rated the assessment as a valuable process and said they would participate again, with some also expressing interest in being involved in next steps of the L-SIP. The full report can be found at: <http://city.milwaukee.gov/LSIPresults>.

### ***The Results***

Following the assessment, the consultant worked with MHDL staff involved in the L-SIP to analyze and interpret assessment data, ranking the Essential Services based on their overall scores and determining the main strengths and weaknesses of each. The areas in which the LPHL was highest rated were Essential Service #1, Monitor Health Status to Identify Community Health Problems, and Essential Service #2, Diagnose and Investigate Health Problems and Health Hazards in the Community. Areas identified as needing the most improvement were Essential Service #10, Research for Insights and Innovative Solutions to Health Problems, Essential Service #4, Mobilize Community Partnerships to Identify and Solve Health Problems, and Essential Service #5, Develop Policies and Plans that Support Individual and Community Health Efforts.

**Figure 1: Assessment Scores for the 10 Essential Services of Public Health**

<div> <b>PERFORMANCE</b>  <b>Essential Public Health Services:</b> </div>										
	1	2	3	4	5	6	7	8	9	10
Optimal Activity	83.4	89.0								
Significant Activity			67.0				67.0	61.2		
Moderate Activity				33.0	30.3	44.3			50.0	
Minimal Activity										16.7
No Activity										

All of the results were compiled into an assessment report, which was e-mailed to participants and posted to the L-SIP section of MHDL's website. Utilizing GoToWebinar software, the results, as well as next steps to enhance the capacity of the LPHL system and collaboration among stakeholders, also were presented to interested stakeholders in an interactive webinar on March 30, 2011, and the webinar PowerPoint presentation was later added to the website. About 30 stakeholders participated in the webinar, including some internal MHD staff.

### ***Forming a Strategic Planning Team***

Once the assessment results were clear, the next step of the L-SIP process was to establish a steering committee to guide strategic planning. Drawing from L-SIP assessment participants and other LPHL stakeholders, MHDL recruited 14 members to serve on the Milwaukee Laboratory Advisory Committee (MLAC). Membership can be seen in Figure 2 below:

**Figure 2: Milwaukee Laboratory Advisory Committee (MLAC) Members**

<b>Name</b>	<b>Title</b>	<b>Agency</b>
<b>Charles Brokopp</b>	Director	Wisconsin State Laboratory of Hygiene
<b>Jeffrey Davis</b>	Chief Medical Officer, Epidemiologist	Wisconsin Division of Public Health Bureau of Communicable Diseases
<b>Chukuka Enwemeka</b>	Dean of Health Sciences	University of Wisconsin-Milwaukee
<b>Steve Gradus</b>	Laboratory Director	City of Milwaukee Health Department Laboratory
<b>Roger Gremminger</b>	Medical Director	STD Specialties Clinic
<b>Angela Hagy</b>	Epidemiologist	City of Milwaukee Health Department Disease Control & Prevention
<b>Linda Laatsch</b>	Associate Professor, Clinical Laboratory Science	Marquette University College of Health Sciences
<b>Randall Lambrecht</b>	Vice President, Research & Academic Relations	Aurora Health Care
<b>Sharon Mertens</b>	Laboratory Manager	Milwaukee Metropolitan Sewerage District
<b>Erik Munson</b>	Microbiology Director	Midwest Clinical Laboratories
<b>Paul Nannis</b>	President/CEO	Strategic HealthCare Solutions
<b>David Petering</b>	Director, Marine & Freshwater Biomedical Science Center	University of Wisconsin-Milwaukee Dept. of Chemistry & Biochemistry
<b>Mark Spellman</b>	Postal Inspector	U.S. Postal Service and Federal Bureau of Investigation
<b>Bill Wucherer</b>	Director, Health & Social Services	City of Franklin Health Department

MLAC members were charged with the duties of identifying and prioritizing the focus of laboratory system improvement efforts and ultimately reviewing and approving Milwaukee's Laboratory System Improvement Plan. The group met for the first time on June 3, 2011. The purpose of the meeting was to review the results of the assessment and identify a laboratory system issue in need of improvement to serve as the focus of strategic planning. Each member of the MLAC was assigned an Essential Service from the assessment reports to analyze and present to other committee members. The group then discussed insights and emerging themes and shared information on related initiatives occurring in the community that could be leveraged for improvement efforts. The review of the assessment results provided the basis for identification of system priorities as the focus of strategic planning efforts.

### ***Targeting Strategic Goals***

Through its initial meeting, the MLAC determined that Milwaukee's L-SIP efforts should focus on Essential Services #8 and #10, and developed a system improvement goal of:

**Maximizing the Local Public Health Laboratory System resources and optimizing partnership capacity in support of teaching/workforce development, research and service, and in so doing support the Milwaukee Health Department mission to become an academic health department.**

With that goal in mind, the MHDL recruited 10 additional subject matter experts (SMEs) in the areas of research and workforce development to work with the MLAC to develop a strategic plan. Those experts joined the MLAC for a subsequent meeting on August 2, 2011.

**Figure 3: The MLAC and SMEs meet in August**



*MLAC members and subject matter experts in the areas of research and workforce development gathered on August 2, 2011 at the Greater Milwaukee Foundation to brainstorm steps to strengthen LPHL system efforts in those areas. [Research SMEs pictured.]*

Divided into separate workgroups for each of those areas, participants first inventoried current efforts within Milwaukee's LPHL system. Based on this understanding of assets and gaps, they then worked together to develop a framework with strategic directions aimed at strengthening workforce development and enhance research efforts. The group chose five strategic directions to focus on in each area, outlining steps that could be taken to help achieve those goals.

The MLAC alone met once again on September 26, 2011, to review and refine those strategic directions. Goals established for enhancing research activities are as follows:

- Establish leadership & objectives to facilitate LPHL System research
- Develop a network of scientists & infrastructure to support research
- Assure sustained funding to empower research
- Create mechanisms to train researchers
- Communicate LPHL System research to the public

Meanwhile, goals identified for strengthening workforce development within the LPHL include:

- Educate the public and health care professionals on the importance of the LPHL System
- Attract a motivated & highly skilled workforce
- Retain an engaged & competent workforce
- Invest in innovative technology to improve efficiency & capacity

Figures 4 and 5 below outline detailed steps produced by the MLAC that could be taken by the LPHL system in order to help further each of those goals.

Figure 4: Strategic Directions to Enhance Research Activities

<b>Milwaukee Laboratory Advisory Committee</b> <b>Laboratory System Improvement Program</b>				<b>November 2011</b>
<b>Strategic Directions – Research</b>				
<i>What innovative &amp; substantial actions can we take to enhance <u>research activities</u> within the Local Public Health Laboratory (LPHL) system?</i>				
<b>Establish leadership &amp; objectives to facilitate LPHL System research</b>	<b>Develop a network of scientists &amp; infrastructure to support research</b>	<b>Assure sustained funding to empower research</b>	<b>Create mechanisms to train researchers</b>	<b>Communicate LPHL System research to the public</b>
<p>Identify a research director and establish a steering committee</p> <p>Develop objectives that targets research that addresses the public's needs (i.e., applied science)</p> <p>Identify and share research agendas among lab organizations</p> <p><b>Parking Lot:</b></p> <p>Conduct public health research on a global scale with international partners</p>	<p>Identify &amp; network researchers, their expertise and agendas</p> <p>Create a database of research expertise (researchers &amp; infrastructure)</p> <p>Develop mechanisms to share resources</p> <p>Facilitate inter-institutional &amp; interdisciplinary approaches to conduct research</p> <p>Stimulate collaborative research activities through meetings, forums and seminars</p>	<p>Inventory funding sources &amp; expertise</p> <p>Create a mechanism to support collaborative grant proposals</p> <p>Access biotech companies and other private sector partners</p> <p>Identify innovative ways to generate revenue and develop products</p> <p>Conduct pilot projects</p>	<p>Provide training in research to graduate students</p> <p>Provide research opportunities and resources for graduate students</p>	<p>Promote public health research to community, governmental and private sectors</p> <p>Enhance communication tools for sharing research outcomes such</p> <p>Communicate and translate research to the community (e.g., CBPR &amp; Translational Research)</p>

Figure 5: Strategic Directions to Enhance Workforce Development Activities

<b>Milwaukee Laboratory Advisory Committee</b> <b>Laboratory System Improvement Program</b>			<b>November 2011</b>
<b>Strategic Directions – Workforce Development</b>			
<i>What innovative &amp; substantial actions can we take to strengthen <u>workforce development</u> within the Local Public Health Laboratory (LPHL) system?</i>			
<b>Educate the public and health care professionals on the importance of the LPHL System</b>	<b>Attract a motivated &amp; highly skilled workforce</b>	<b>Retain an engaged &amp; competent workforce</b>	<b>Invest in innovative technology to improve efficiency &amp; capacity</b>
<p>Promote LPHL successes through the media and public information officers to communicate how the LPHL system impacts the public's health</p> <p>Establish a legislative outreach and advisory committee</p> <p><b>Parking Lot:</b> Capitalize on outbreaks and public health emergencies to highlight the work of the public health laboratory system</p>	<p><b><i>Elementary, Middle &amp; High School and College Level Outreach:</i></b></p> <p>Integrate laboratory competencies into curricula</p> <p>Provide a laboratory/health sciences career fair during Medical Lab Week</p> <p>Conduct outreach to high school science teachers &amp; guidance counselors</p> <p>Create shadowing opportunities to raise awareness of laboratory careers</p> <p><b><i>Additional College Strategies:</i></b> Systematize internship opportunities</p> <p>Develop and support inquiry-based research opportunities</p> <p><b><i>Professional Development:</i></b></p> <p>Create a system for notifying stakeholders about job openings</p> <p>Develop mechanisms to support re-entry into workforce (e.g. second careers)</p>	<p>Enumerate and define competencies of the LPHL workforce</p> <p>Invest in staff development:</p> <ul style="list-style-type: none"> <li>Assure continuing education</li> <li>Develop and support distance learning programs</li> <li>Institute cross training</li> <li>Increase opportunities for field work</li> </ul> <p>Assure workplace quality, compensation and flexibility for a diverse workforce through:</p> <ul style="list-style-type: none"> <li>Competitive salaries</li> <li>Defined career trajectories</li> <li>Meaningful performance evaluations</li> </ul> <p>Identify &amp; access workforce development resources :</p> <ul style="list-style-type: none"> <li>Share best practices through a LPHL system workforce development task force</li> <li>Access national association resources (i.e., APHL, National Society for Experiential Education (NSEE), American Society for Clinical Pathology (ASCP))</li> </ul>	<p>Conduct a needs assessment to determine infrastructure needs</p> <p>Stay current on automation and new technology</p> <p>Enhance the use of existing technology</p> <p>Pursue new technology for increased productivity</p> <p>Re-engineer workflow through continuous process improvement</p>



## ***Moving Forward***

The MLAC will meet once again with subject matter experts in December to review, finalize and approve Milwaukee's official L-SIP strategic plan. The purpose of this meeting will be to develop a 90-day and one-year implementation timeline and to discuss resources embedded in the system that can be leveraged to advance and sustain LSIP efforts in Milwaukee. A webinar will subsequently be conducted to present the plan to interested LPHL system partners. It is MHDL's hope that the webinar will excite stakeholders and encourage them to be involved in the implementation of strategic plans. The MHDL will continue to identify funding opportunities to assure coordination and facilitation of the process and to support specific initiatives.

Upon completion of the implementation plan, the MHDL will draft a manuscript for publication, which will focus on documenting the nuances of L-SIP application at the local level, including an explanation of lessons learned. Depending on the future role of the MLAC, the project may develop a charter and evaluate how the process has influenced partnerships within the LPHL system.

Since June of 2011, MHDL's L-SIP efforts have been presented at the APHL national meeting through a panel presentation and poster, and also through a poster session at the American Public Health Association (APHA) annual meeting – both of which have already laid the groundwork for a manuscript.

There has been significant national recognition, support and excitement around the MHDL's efforts to implement the L-SIP at the local level, and we continue to seek resources within the LPHL system to assure leadership and continue facilitation of Milwaukee's L-SIP. We expect that the majority of the resources needed to implement the strategic plan are accessible through the local system and will simply need to be leveraged to make our plan a reality.

## ***Timeline***

